REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated August 28, 2003. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 4-5, 8-11 are under consideration in this application. Claims 4, 5 and 9 are being amended, as set forth above in the marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim Applicants' invention. New claims 10-11 are being added to recited other embodiment described in the specification.

Additional Amendments

The claims are being amended to correct formal errors and/or to better disclose or describe the features of the present invention as claimed. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Allowable Subject Matter & Formality Rejection

Claim 9 would be allowable if this rejection as being vague and indefinite under 35 U.S.C. § 112 is overcome. As indicated, Claim 9 is being amended as required by the Examiner. Accordingly, claim 9 is in condition for allowance.

Prior Art Rejections

Claims 4, 5 and 8 were rejected under 35 U.S.C. § 103(a) on the grounds of being unpatentable over U.S. Pat. No. 6,083,763 to Balch (hereinafter "Balch") in view of U.S. Pat. No. 4,380,772 to Italiano (hereinafter "Italiano"), EP Pat. No. 0 947819 A2 to Yurion (hereinafter "Yurion") and U.S. Pat. No. 5,552,087 to Zeheb et al. (hereinafter "Zeheb"). This rejection has been carefully considered, but is most respectfully traversed.

The process for producing at least one biochip of the invention, as now recited in claim 4 (e.g., Figs. 5A-D; pp. 10-11), comprises: putting (1) a first solution containing at least one biopolymer, (2) a second solution whose specific gravity is smaller than the gravity of the first solution so as not to mix with the first solution, and (3) a third solution which does not mix with the first solution and has a larger specific gravity than that of the first solution into an inkjet device; and ejecting the first solution from the inkjet device to a substrate to immobilize the biopolymer on a spot of a substrate of said biochip thereby producing the same.

For example, *"the charging path **2** is filled with the solutions such that the initial adjustment solution **10** stays closer to the injection nozzle **4**, the DNA solution **6** in the middle, and the buffer solution 7 on the top"* (page 10, lines 13-16). *"Figure **5B** is a schematic view showing an initial adjustment state which is performed until the injection operation by the inkjet device becomes stable. The solution is repeatedly injected until the amount of injection becomes stable"* (page 10, lines 23-26).

Neither Balch nor Italiano teaches or suggests "using a first solution containing at least one biopolymer, a second solution with a smaller specific gravity than the first solution, and a third solution (page 4, lines 28-29) which does not mix with the first solution and has a larger specific gravity than that of the first solution (*"first the initial adjustment solution **10**, then the DNA solution **6** and finally the buffer solution 7"* page 10, lines 18-20; Fig. 5) into an inkjet device thereby ejecting the first solution from the inkjet device to a substrate to immobilize the biopolymer on a spot of a substrate of said biochip to produce said biochip. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). MPEP 2143.03.

Yurion was relied upon by the Examiner to teach "a solution containing Tris-HCI as a buffer" (p. 4, 2nd to last line of the outstanding office action), and Zeheb was replied upon by the Examiner to teach a step of "forming a floating layer of liquid paraffin or mineral oil over a solution" (p. 5, lines 13-14 of the office action). However, Yurion and Zeheb fail to compensate for the above-mentioned deficiencies of Balch and Italiano.

Accordingly, Applicants contend that the cited conflicting teachings of the prior art references would not motivate their combination such that their combination would embody each

and every feature of the present invention as now claimed in claim 4 from which claims 5 and 8 depend. The difference is more than sufficient that the present invention as now claimed would not have been rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicants respectfully contend that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

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